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As I see

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THE FLUCTUATIONS IN THE SELLING PRICES OF SINGLE-FAMILY RESIDENCES

TO the investor, the speculator, the owner, the mortgage banker and the appraiser, the change in the value of real estate from time to time is all-important. It is the end result of all of the various factors which influence the real estate market.

In spite of the fact that this has always been true, up to the present time no satisfactory index of the fluctuations in values over a period of years has ever been developed and no month-by-month figures on changes in value are currently available.

The great stumbling block in the way of building such an index is that every piece of real estate is unique and different in some particular from every other piece. It is quite easy to construct an index of the selling price of wheat or corn of a certain grade, as every bushel sold is sufficiently similar to every other bushel to make it possible to average the selling price of the actual sales.

The first effort made by this company to build an index showing changes in value was published in the Real Estate Analyst 18 years ago. It was based on a study of the classified newspaper columns of St. Louis for the period from 1875 to 1934. All advertisements on single-family residences were reduced to the average asking rent per room and, from the "for sale" ads, the average asking price per room. A chart was published in this Analyst showing the resulting fluctuations on four-, five-, and six-room dwellings over the 59-year period.

At that time, however, we presented this index with many qualifications, including the following: "We are under no mistaken idea that the index we have arrived at shows selling price. We make no claims for it other than that it is the best index we have been able to construct so far giving any idea of how asking prices have varied for four-, five-, and six-room single-family dwellings over a long period of years."

We also pointed out that there were two very definite limitations to the study:

Please read this bulletin. I consider the study it describes one of the most significant we have made in the past 25 years.

Roy Wenzlick

1. That advertised prices, especially during a depression, do not necessarily represent the price for which property is actually sold, as trading on an inflated basis keeps the asking price much above the cash selling price.

2. That four-, five-, and six-room single-family dwellings experienced relatively little vacancy and, therefore, withstood price adjustments a great deal better than flats and apartments.

We have tried to familiarize ourselves with all other attempts to arrive at an index which would show more accurately changes in value. The fallacy of almost all attempts of this sort is that sales have been averaged in order to find the average selling price. This might yield a fairly satisfactory result in a month-to-month study, but it certainly falls far short in any study attempting to compare the present with the past. During the month of November, for instance, three-fourths of all sales were on properties less than five years old. These properties are in the great majority of cases single-family ranch-type houses of a totally different design than the great bulk of older housing in the United States. Comparing this November with November of a year ago, we will find that the great bulk of sales then were houses 10 to 15 years of age or older, and if we compare it with November 1946, we will find that practically no new houses were sold and that the sales consisted almost entirely of houses 15, 20 or 25 years of age or older. The average price in November 1946 would be the average of the type of building which was being sold then. The average in November 1952 is the average of the type of building being sold now. To try to combine averages of this sort into an index would be just as fallacious as trying to represent the fluctuations in the selling price of wheat if in 1946 the index was composed largely of corn, and in 1952 it was composed largely of barley.

After considerable study we arrived at the opinion that all indexes in the past had fallen short because they tried to compare the selling price of one piece of real estate with the selling price of another piece. We are convinced that the only valid index will be an index in which the sales price of any given piece of real estate is compared only with the sales price of that same piece of real estate at a different time. In other words, the index must be composed not by comparing the sales price of one piece of property to the sales price of another, but by comparing the sales price of one piece of property to the sales price of the same piece of property at a different time.

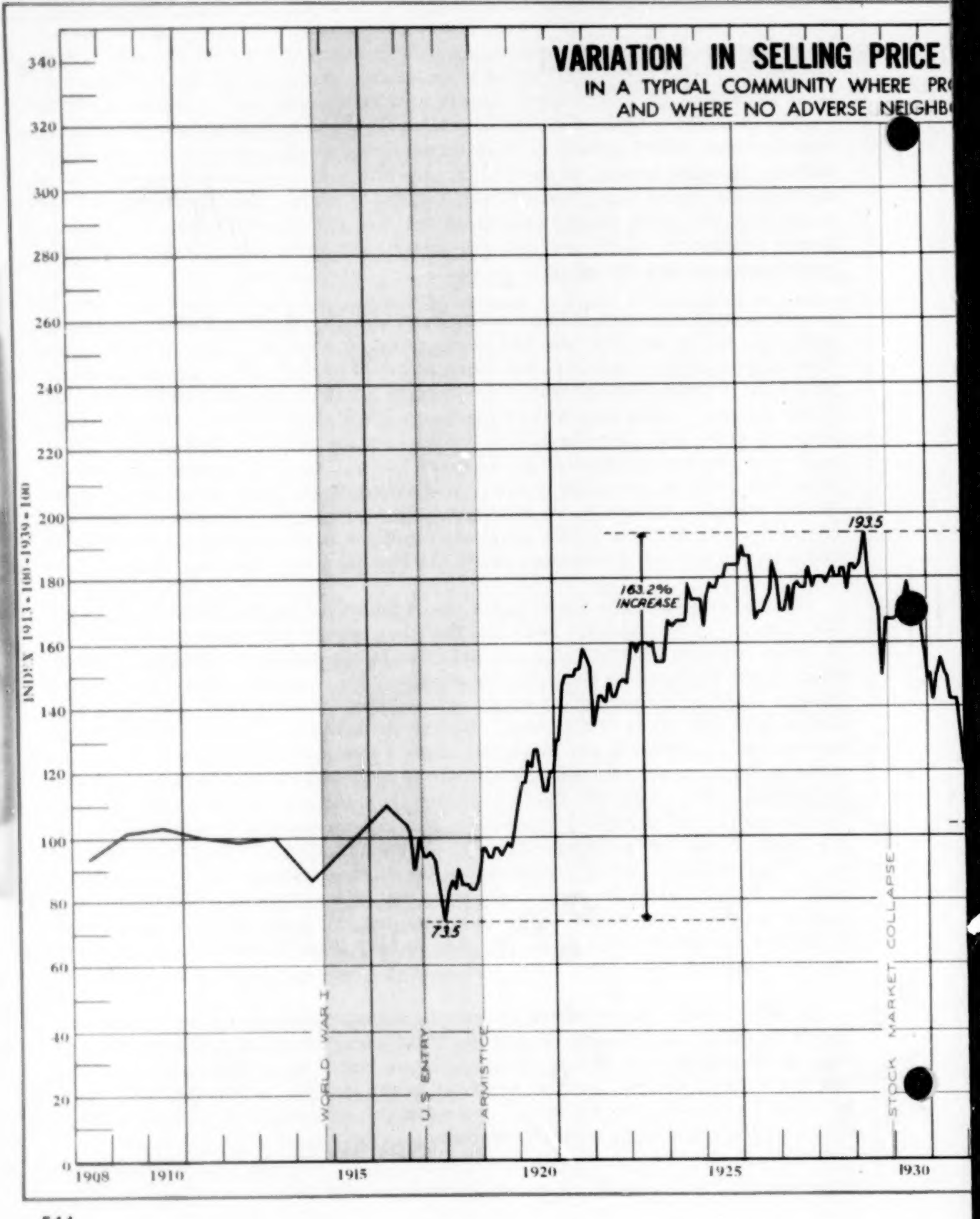
Having arrived at this opinion, we have set about constructing such an index. We have selected for our experiment a community forming a residential suburb of a large Midwestern city, with a population between 20,000 and 25,000. In this community during the period under study, there has been practically no change in use, as the community consisted almost entirely of single-family residences fifty years ago, and still consists of the same type of development. During the entire period there has been new building in this community, but the new building has

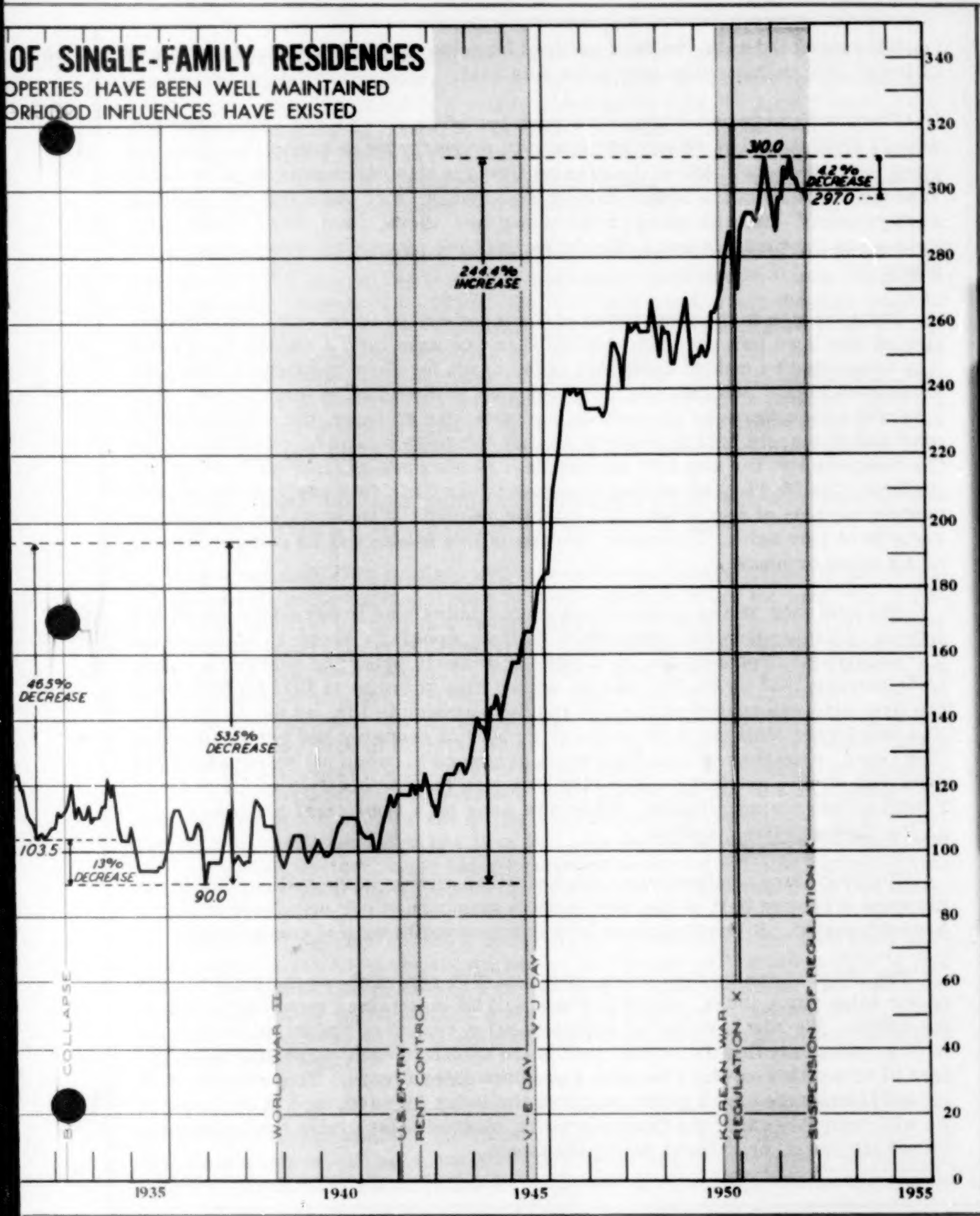
been fairly homogeneous and harmonious with existing buildings. Properties have not changed from residential to commercial use, strict zoning and deed restrictions have been enforced, single-family residences have not changed to rooming houses or to other types of multifamily use. There have been no serious infiltrations of other racial groups or of different economic groups which might affect values. In other words, in the community which we have selected, we believe we have eliminated many factors which might adversely affect values, with the result that our index should represent the changes in selling price of single-family residences which are well maintained and in neighborhoods which have had no serious deterioration.

We started our index in this community by enlisting the cooperation of the principal real estate dealers who had been operating over a long period of years. They allowed us to send our own clerical force to their offices to take off the actual sales price from closing statements on all sales they had made from 1908 to the present. Each sale was entered on a 3 x 5 card, with the address of the property at the top, then the date of the sale and the actual selling price. These sales were then supplemented in the years where they were available by the information from the recorder's office on deeds recorded, using the value shown by the tax stamps. Naturally, on many properties we secured information from both sources - from the real estate agent who made the sale and from the recorder of deeds on the amount represented by the tax stamps.

We had considerable initial doubt about including any information from the tax stamps, as we had often been told that they did not represent the value, that in many cases an inflated value was indicated by the pasting of additional stamps above those required by the actual purchase price, and that in other cases the stamps merely represented the equity payment above the mortgage. We were able to find very few cases of this sort. Before including any of this material from the recorder's office in our index, we made a thoroughgoing check of the reliability of the figures. We tested a sample of over 500 cases where we had both the actual selling price and the information from the tax stamps, in an effort to find the amount of variation which we could expect in using this test material. We found, first, that in 69% of all cases the amount shown by the tax stamps and the actual amount of the sale as shown on the closing statement of the real estate man were identical to the penny. We found that in less than one-half of one percent of the cases was the variation in the selling price and in the amount shown by the tax stamps greater than 10%, and in less than 6% of the cases was the variation greater than 5%.

In most cases, the variation between the actual consideration and the amount shown by the tax stamps consisted solely in the variation which was due to the fact that the stamps are not issued in small denominations, and it was necessary, where the exact amount could not be shown by the stamps, to take the next break. In 74% of the cases, the difference between the selling price and the amount shown by the tax stamps was $250 or less.


VARIATION IN SELLING PRICE
IN A TYPICAL COMMUNITY WHERE PR
AND WHERE NO ADVERSE NEIGHB
INDEX 1913=100-1939=100
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
1908
1910
1915
1920
1925
1930
193.5
163.2% INCREASE
73.5
WORLD WAR I
U.S. ENTRY
ARMISTICE
STOCK MARKET COLLAPSE


OF SINGLE-FAMILY RESIDENCES
OPERTIES HAVE BEEN WELL MAINTAINED
ORHOOD INFLUENCES HAVE EXISTED
310.0
4.2% DECREASE
297.0
244.4% INCREASE
46.5% DECREASE
53.5% DECREASE
103.5
13% DECREASE
90.0
COLLAPSE
WORLD WAR II
U.S. ENTRY
RENT CONTROL
V-E DAY
V-J DAY
KOREAN WAR
REGULATION X
SUSPENSION OF REGULATION X
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
1935
1940
1945
1950
1955

This being the case, we have secured from the recorder's office the records of every sale in this community since July 1941.

The 3 x 5 cards on all transfers were sorted by streets and house numbers, and all multiple sales on any one piece of property were consolidated on one card, with the result that at the present time for this community we have cards representing 52% of the single-family residences, with one card representing each property, and with many cards having two, three, four, five, or six sales entered on the card. In some city blocks, we have records for every house in the block.

The next step in the preparation of our index was to select only those properties on which we had records of more than one sale, and a second card index was assembled by making duplicates of the cards for these properties. Only the properties in this duplicate file have been used in the index; in other words, until a second sale appears on our card on any particular property, the property is not used and is merely held in reserve so that future sales can be checked against the complete list for any new duplicates. At the present time we have in this duplicate file 35.4% of all of the properties in our file. Of these properties, 67% contain records of two sales, 22% contain records of three sales, 7% contain records of four sales, 3% contain records of five sales, and 1% contain records of six sales or more.

The next step in the preparation of our index was to translate the dollar figures of these sales into percentage figures, generally known to statisticians as "relatives." For instance, on a piece of property which had sold twice - once in September 1923 for $9,600, and the second time in August of 1952 for $18,000 - the first sale was considered as 100 and the second sale 188, as the second sale was 88% higher than the first sale. If a piece of property had been sold more than twice, relatives of this type were prepared between all sales which had occurred on this property. The last step was the combination of all of these relatives into a single index. This was done by a statistical process known as the "link relative" method.

The procedure outlined above seems rather simple in the telling, but it has occupied a greater part of the time of many members of our organization over a 3-month period. It involved about fifty thousand mathematical computations.

The chart shown on the center spread of this report shows the final results of our sales price index, and this index will be maintained month by month in the future. We now have such a complete sales record of almost all properties in this community that the greater part of the transfers each month will be transfers of properties on which we have a previous sales record. This enables us to get sufficient cases each month to carry the index forward, and in our reports we will regularly carry the figures showing whether sales prices have advanced, stayed the same, or dropped during the month.

A close study of the chart on the center spread of this report is quite interesting. It shows, for instance, that on the average, a single-family residence which was well-maintained in a stable community sold for approximately the same amount in 1939 as it sold for in 1913. Actually, replacement costs were more than one-third higher in 1939 than they were in 1913, and a new house in 1939 would naturally have sold for a great deal more than a similar new house in 1913 - the difference being the accrued depreciation.

It will also be noticed that from the low point in 1917 during World War I to the peak in 1929, the selling price of a well-maintained single-family residence on the average increased by 163%. On the other hand, from the high point in 1929 to the low point in 1936, the selling price of a well-maintained property fell by 53%, most of this drop occurring in a 2-year period. From the low point in 1936 (right after Simon and Schuster published for me The Coming Boom in Real Estate) to the high point in 1952 was an increase of 244% or, in other words, real estate values increased by almost $2\frac{1}{2}$ times. During the last 5 months, however, the average selling price on our index has decreased by 4.2%.

We will watch this index month by month with a great deal of interest, to see whether the drop will continue and, if it does, at what rate.

The completion of this index opens up a whole new field of research, and it will make possible many additional studies in our reports during the next year. The first study we have in mind is a comparison of this index with replacement cost on the same general type of property represented by these sales. Since every point on our index was obtained by comparing sales on that date with sales on the same properties at some preceding date, the index will automatically include depreciation. In other words, it will show what the average sales price would have been at any date in the past on any existing building if the present sales price is known. Only normal depreciation, however, is included, as all sales were checked against building permits, first, to find the age of the property and, second, to find out whether any major alterations had taken place between any two sales. Since our sales line thus includes depreciation, comparing it with the percentage fluctuations in the replacement cost of a building typical to this community will show the amount of accrued depreciation between any two dates.

The rate of depreciation has generally been assumed to be a straight line. What depreciation has actually amounted to for any period since 1908 in this community can be determined by a comparison of these two lines. We will know whether the actual depreciation in a period of depression is considerably greater than the allowance in the sales price during a boom period, and we will know how great the difference is.

A second study will compare the fluctuations in selling price with the fluctuations in average rents in the same community. A third study will compare the fluctuations of selling price with the fluctuations of real estate activity and with the foreclosure rate. A fourth study will divide this index by the cost of

goods and services to find out what relationship there has been in the change in price of single-family residences in comparison with the change in price of goods and services. A fifth study will compare this selling price index with the price of common stocks and other types of investments over the same period to see whether real estate has fared better or worse than other types of investments.

A special study is now being prepared which will make it possible to determine what the present selling price should be on any piece of property similar to those included in the study, if the selling price at some preceding date is known and if that selling price was typical of the market at the time.

ROY WENZLICK